



Showcasing research from Professor Volker Hessel's laboratory, School of Chemistry, University of Adelaide, Adelaide, South Australia, Australia.

ESG assessment methodology for emerging technologies: plasma *versus* conventional technology for ammonia production

Environmental, social, and governance (ESG) criteria assess companies beyond financial performance, considering their environmental and social impact. This study forecasts the ESG potential of emerging chemical technologies, applying the MSCI rating system to ammonia production. Conventional Haber-Bosch (HB) processes, with high fossil fuel input and CO₂ emissions, contrast with plasma technology, offering a sustainable alternative for green ammonia production. Five plasma-technology companies (TRL 3-9) are compared to HB companies, with an analysis of ESG performance across five themes and eleven issues, focusing on environmental and social advances in plasma technology.

As featured in:



See Yu, Keilani, Tran, Escribà-Geloch, Goodsite, Sandhu, Sandhu and Hessel, *RSC Sustainability*, 2025, **3**, 1102.